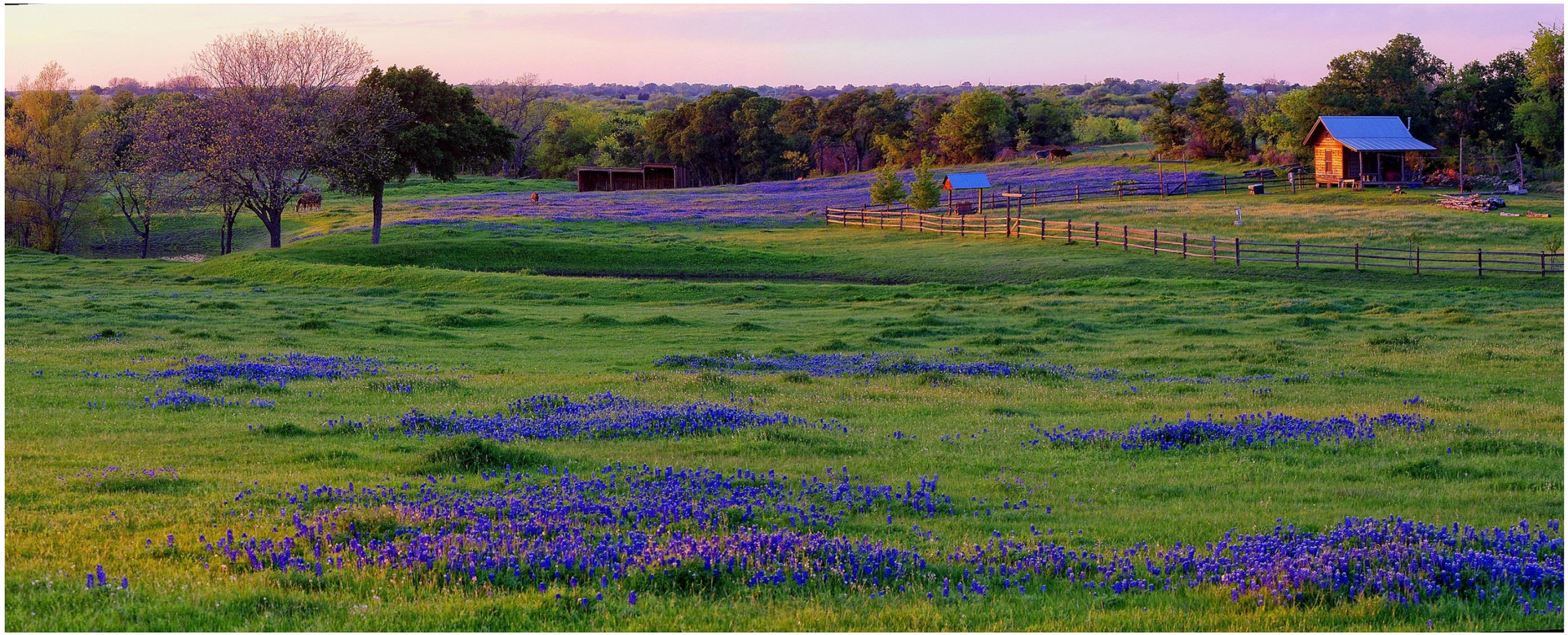
2015 Annual Report of the Texas Poison Control Network



Injury Epidemiology & Surveillance Branch, July 2016

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TEXAS
Department of
State Health Services

ABOUT THIS REPORT

United States poison centers are telephone consultation services that assist in the management of potentially adverse exposures to various substances. Texas has six poison centers that form the Texas Poison Control Network (TPCN). Together, these six poison centers service the entire state - a population of over 25 million. A team of physicians with specialty certification in toxicology serve as medical directors for TPCN and provide support and consultative services to staff and healthcare providers. Specially trained nurses, pharmacists, and physicians answer calls across the Network.

The TPCN acts as a valuable resource for the state of Texas, answering calls 24 hours a day through the nationwide 1-800-222-1222 hotline. This service is available to assist both the public and healthcare providers. The TPCN professionals are able to directly answer all calls in English and Spanish and can access interpreters for assistance in 160 other languages and for the hearing impaired.

This report describes the characteristics of the human exposures reported to the TPCN in 2015. Although the TPCN also received calls about exposures among animals and general information calls, these were not included in this report. This report focuses on the demographic characteristics of the individuals involved in these exposures, the circumstances or scenarios under which these exposures occurred, and the management and outcome of these exposures.

DEMOGRAPHICS

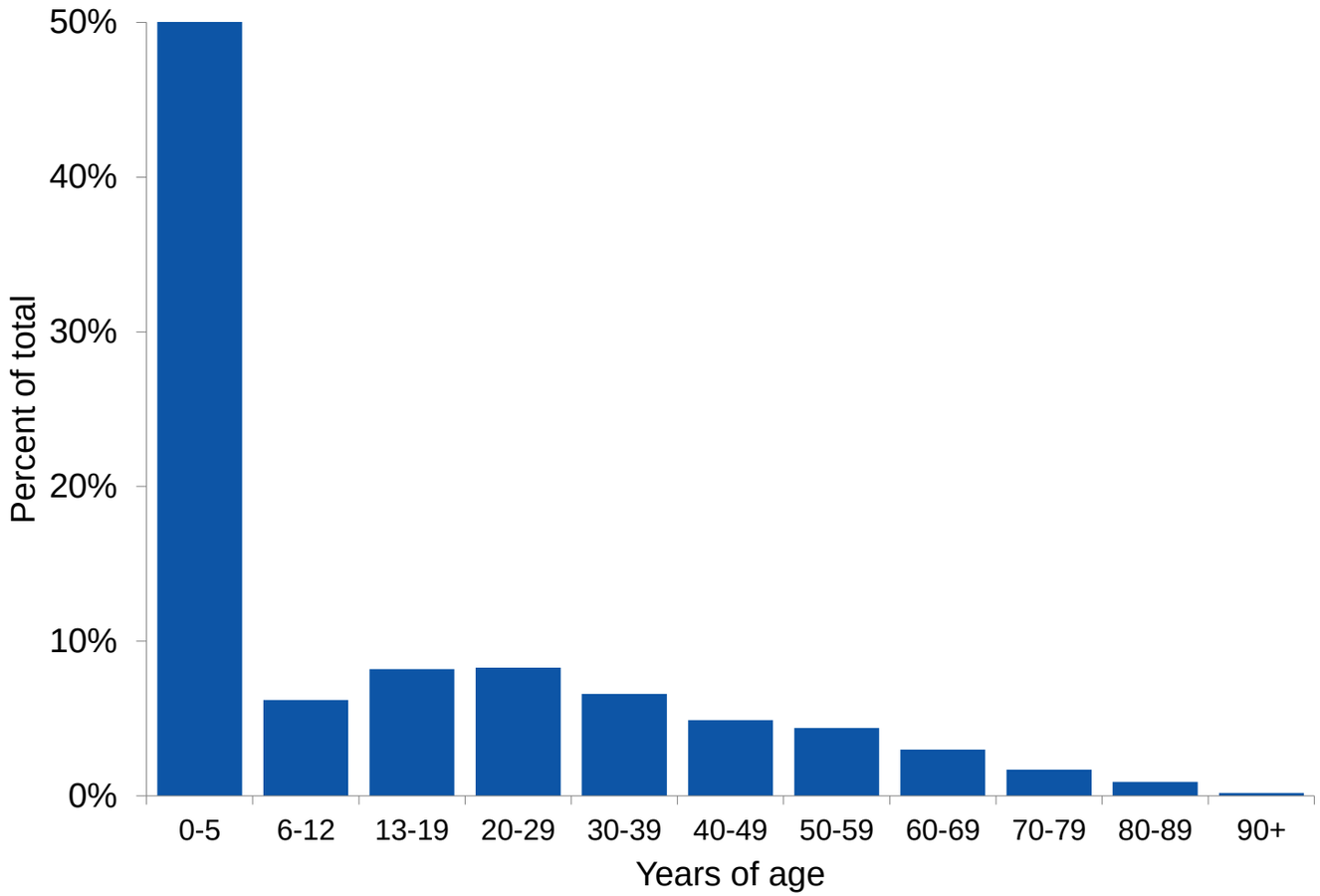
In 2015, the TPCN handled 169,727 calls about people (patients) exposed to a variety of substances, about 465 per day.

There was not a large difference in calls based on sex. Slightly more than half (51.5%) of the patients were females (Table 1, Page 11).

Call volume differed by age group. Half (50.1%) of all the patients were children aged five years or less. Children of five years and younger are more likely to have poisoning exposures. Adults 20 years or older accounted for 34.7% of the patients (Table 2, Page 12; Figure Right).

Half of all calls were for children aged 5 years and younger

Texas Poison Control Network, 2015



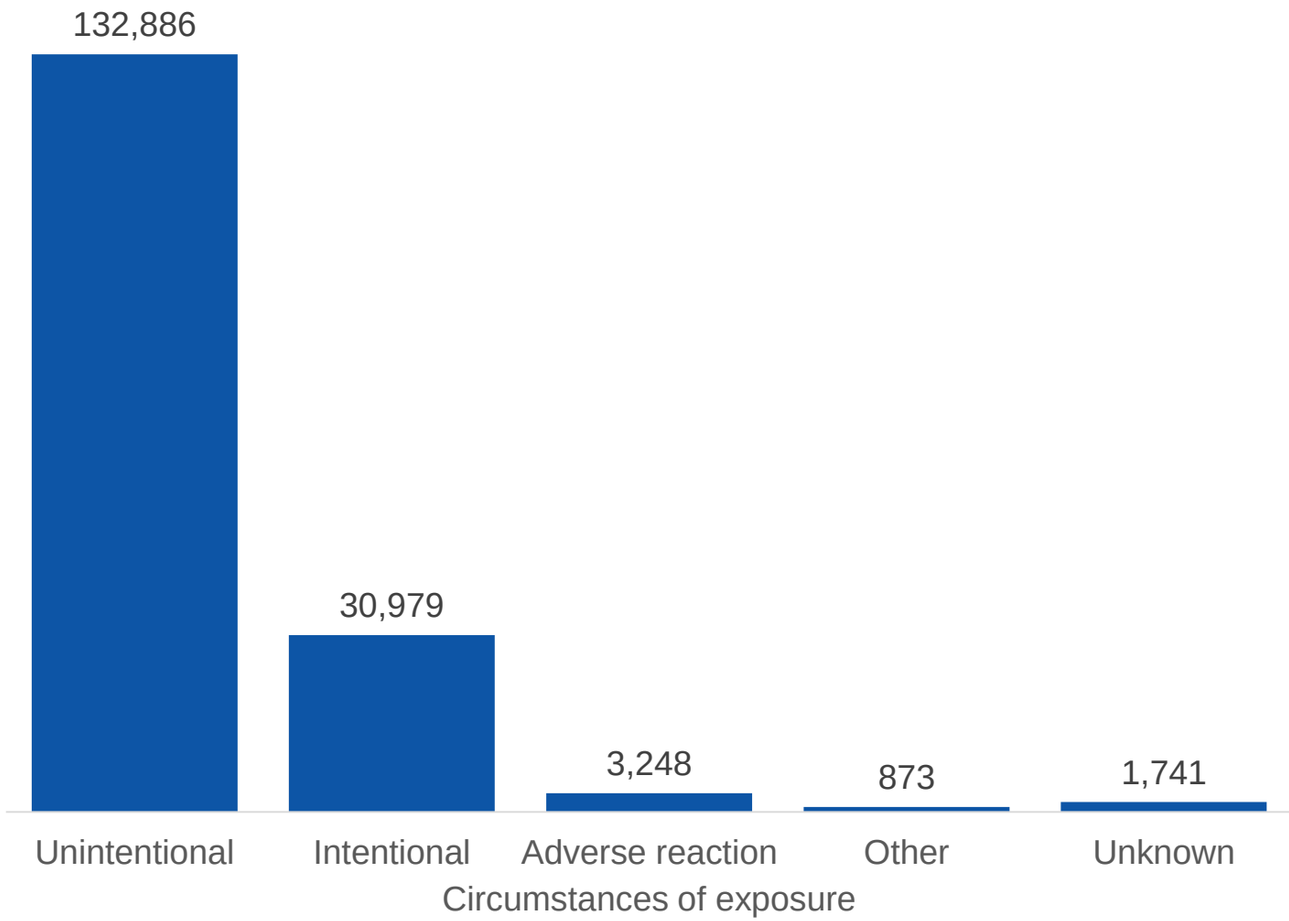
CIRCUMSTANCES AND SCENARIO OF EXPOSURE

Most exposures occurred at the person's own residence (91.6%), with no other location accounting for more than 1.7% of the exposures. While the majority (68.3%) of the calls reporting the exposure also originated from the person's own residence, 22.8% of the calls came from a healthcare facility (Table 3, Page 13). In other words, many of the calls from healthcare facilities were reporting exposures that had occurred at home.

Exposures occurred under a variety of circumstances (reasons). The majority (78.3%) were unintentional (accidental). Intentional exposures accounted for 18.3% of exposures, with 12.6% being suspected attempted suicides. Only 1.9% of exposures involved adverse reactions and 0.5% involved other circumstances such as malicious intent or tampering with the substance (Table 4, Page 14; Figure Right).

Most patient exposures were unintentional

Texas Poison Control Network, 2015



ROUTE OF POISONING

An exposure can occur by an array of different routes and may involve more than one route at a time. The most common route of exposure was ingestion, reported in 85.8% of the exposures. The next most common routes were dermal contact (5.9%), inhalation (4.6%), ocular exposure (3.9%), and a bite or sting (2.7%) (Table 5, Page 15).

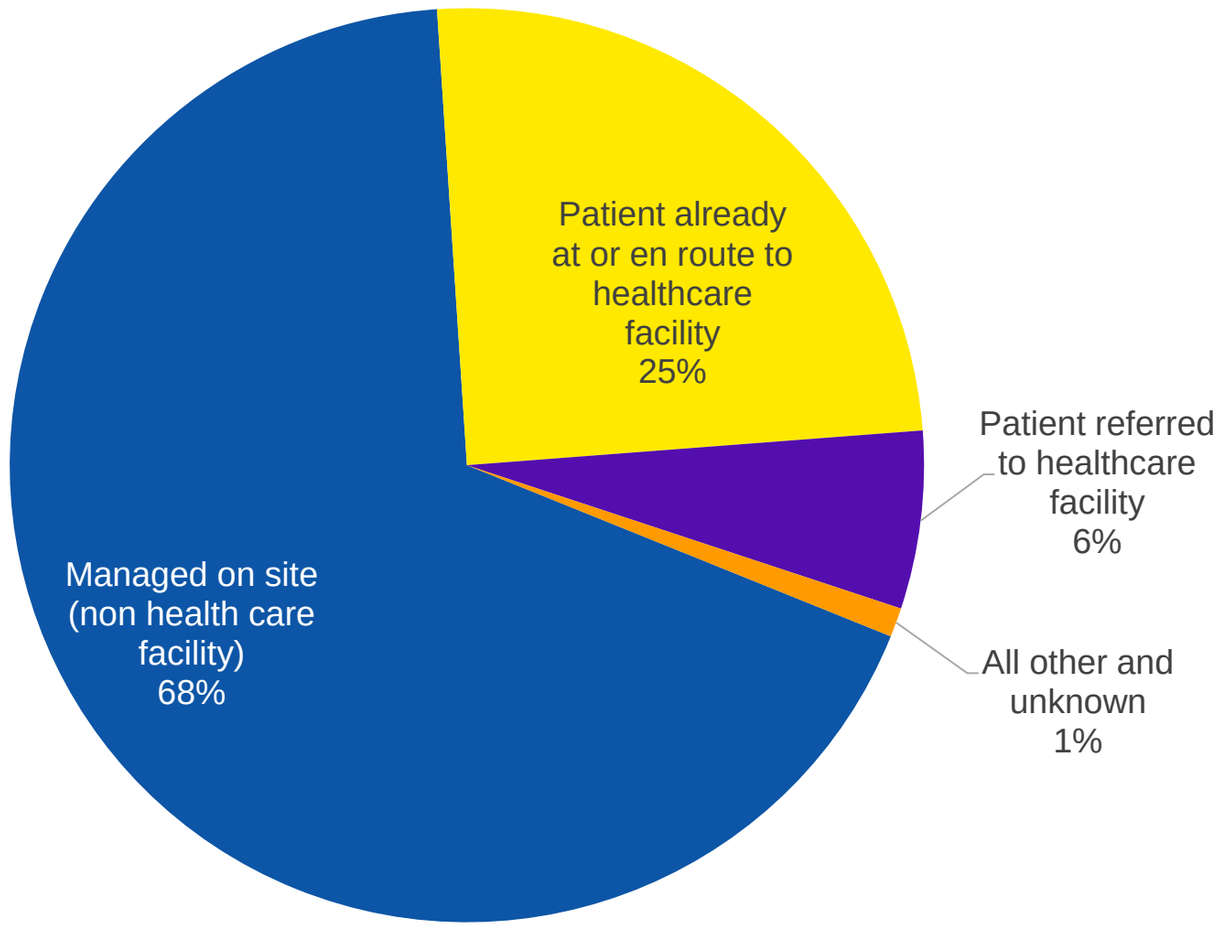
The exposures can involve any number of different substances or products. However, the majority of exposures involved a single substance or product (89.2%) (Table 6, Page 16).

MANAGEMENT OF THE EXPOSURES

In most instances, potentially poisoned patients are successfully managed on site (e.g., at home) and do not require a medical evaluation in a healthcare facility. This results in considerable cost-savings because management at a healthcare facility may result in costs when the exposure could have been safely managed at home. Almost one-quarter of the patients were already at or en route to a healthcare facility when the poison center was contacted; thus, the poison center could not influence where those patients were managed. Overall, 67.8% of the patients were managed on site; the poison center was able to provide information and recommendations to keep the patient at home and avoid an unnecessary healthcare visit. It is also important to note that 6.3% of the TPCN's patients were referred to a healthcare facility by the poison center in cases where a medical evaluation and treatment were necessary for the patients' safety due to the potential severity and risks of the exposure (Table 7, Page 17; Figure Right).

Most patients were managed on site

Texas Poison Control Network, 2015

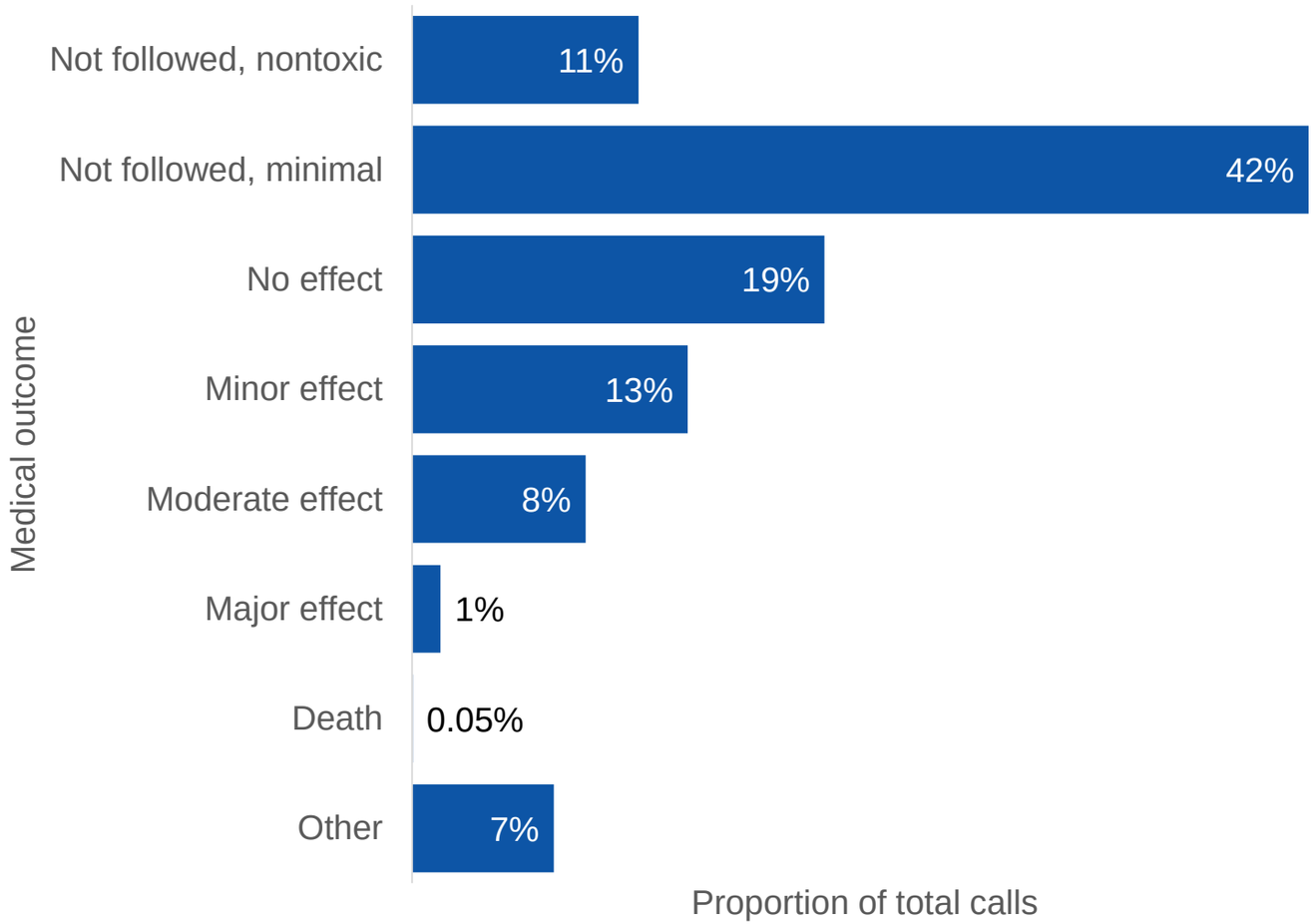


OUTCOME OF EXPOSURES

The outcome severity of the exposure can vary from no adverse effects to death. In 2015, 41.3% of the patients were followed to a final medical outcome. While 32,470 exposures resulted in no adverse effects to the patient, 78 were known to have resulted in death. Approximately 57% of the exposures were not followed to a final medical outcome because the nature of the exposure and substance(s) involved were either non-toxic or not expected to cause more than minimal adverse effects (Table 8, Page 18; Figure Right).The small remainder that were not followed to a final medical outcome by the poison centers were due to the inability to obtain subsequent information on the patient for a variety of reasons such as the poison centers inability to successfully reach the caller or patient, the caller's or patient's inability or refusal to provide information, or their desire to remain anonymous.

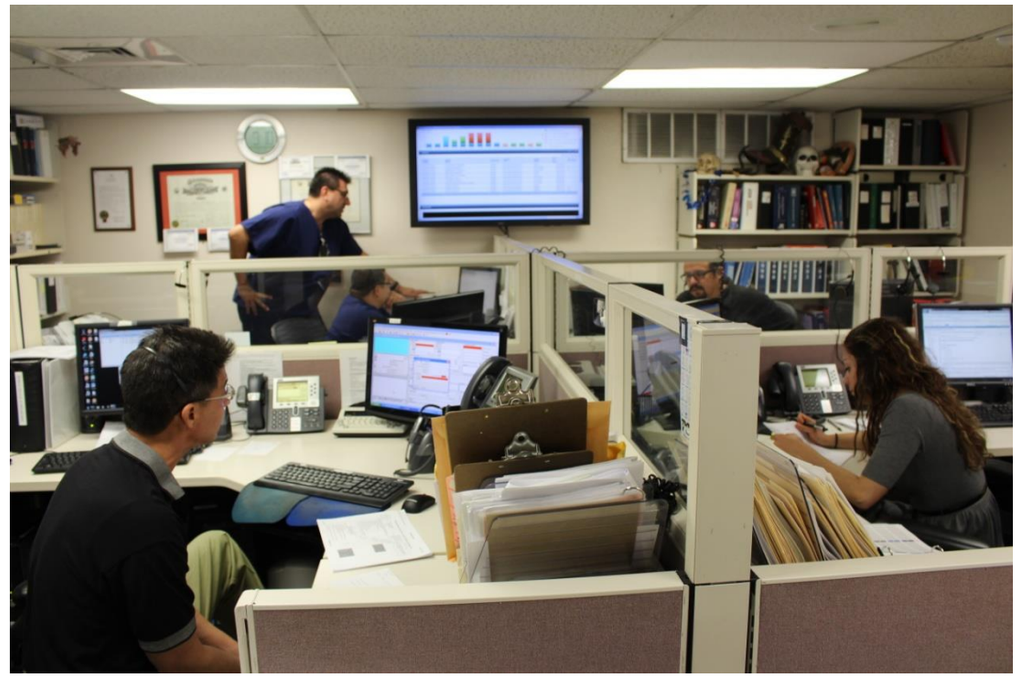
Most medical outcomes were either unknown or minor in severity

Texas Poison Control Network, 2015



MOST COMMON SUBSTANCES INVOLVED IN THE EXPOSURES

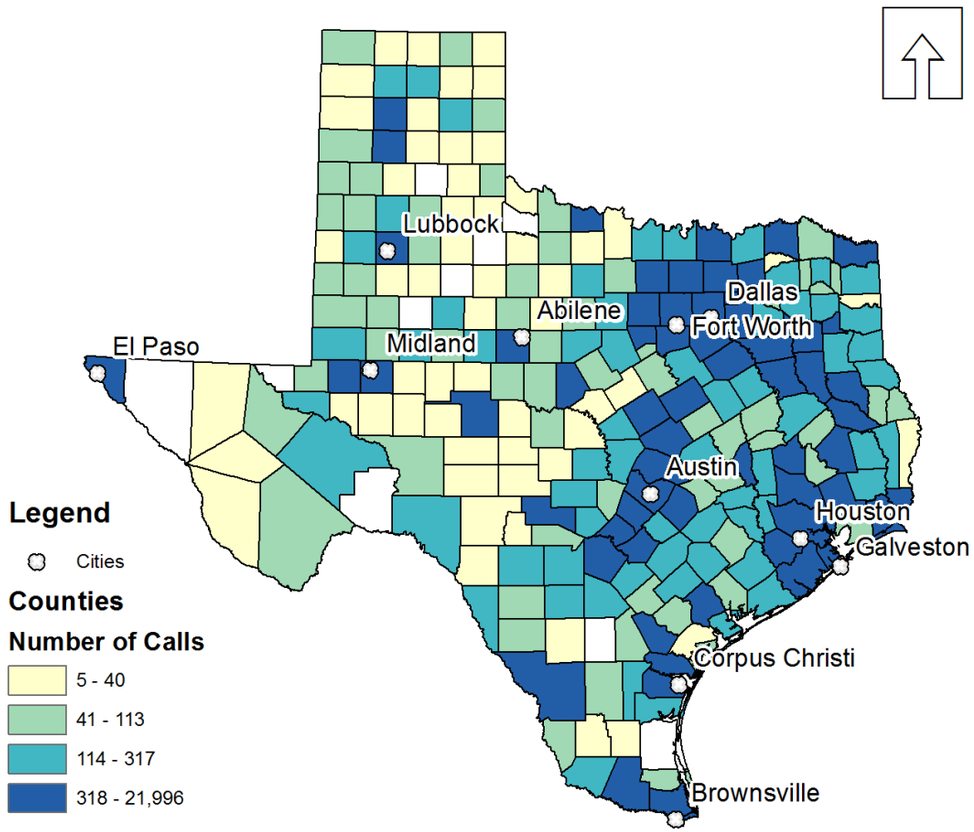
Exposures may involve a variety of substances such as medications, illicit/illegal drugs (e.g., cocaine, heroin, and marijuana), food poisonings, plants and animals, household products, and industrial chemicals. The data system of the TPCN groups these substances into 66 major categories. The most common substance category was analgesic medications, which were involved in 12.4% (or one in eight) of all exposures. The classification for analgesic medications includes a wide range of products from over-the-counter pain relievers such as acetaminophen and aspirin to prescription narcotic opioids such as morphine and hydrocodone. The next most common categories were household cleaning substances (8.9%), cosmetics and personal care products (8.4%), sedatives and antipsychotic medications (6.3%), and antihistamine medications (5.8%) (Table 9, Page 19).



GEOGRAPHIC LOCATION OF THE EXPOSURES

The TPCN received calls from nearly all of the 254 Texas counties in 2015 (Table 10, Pages 20-22). It must be noted that these were the counties where the call came from and not necessarily where the exposure occurred or was treated. For instance, the patient may have been exposed in one county and then gone to a healthcare facility in another county from which the call was generated.

Patient exposures by county of caller
Texas Poison Control Network, 2015



Source: Texas Poison Control Network
Number of Calls are divided by quartiles, Counts below 5 are supressed.

EXPOSURES BY GENDER

Table 1. Patient exposures by gender*, Texas Poison Control Network, 2015		
Patient gender	**Number**	**% of total**
Male	81,986	48.3
Female	87,132	51.3
Unknown	609	0.4
Total	**169,727**	

*Human exposures only

EXPOSURES BY AGE

Table 2. Patient exposures by age*, Texas Poison Control Network, 2015

Patient age (years)	Number	% of total
0-5	85,082	50.1
6-12	10,450	6.2
13-19	13,834	8.2
20-29	14,026	8.3
30-39	11,221	6.6
40-49	8,318	4.9
50-59	7,423	4.4
60-69	5,011	3.0
70-79	2,866	1.7
80-89	1,549	0.9
90+	306	0.2
Unknown	9,641	5.7
Total	**169,727**	

*Human exposures only

EXPOSURES BY SITE AND CALLER SITE

Table 3. Patient exposures by exposure site* and caller site*, Texas Poison Control Network, 2015

Site	Exposure site		Caller site	
	Number	% of Total	Number	% of total
Own residence	155,488	91.6	115,924	68.3
Health care facility	406	0.2	38,676	22.8
All other and unknown	13,833	8.2	15,127	8.9
Total	169,727		169,727	

*Human exposures only

EXPOSURES BY EXPOSURE REASON

Table 4. Patient exposures by exposure reason*, Texas Poison Control Network, 2015

Exposure reason	Number	% of total	% of main subgroup
Unintentional	**132,886**	**78.3**	**100.0**
General	87,038	51.3	65.5
Therapeutic error	21,660	12.8	16.3
Misuse	13,997	8.2	10.5
All other and unknown	10,191	6.0	7.7
Intentional	**30,979**	**18.3**	**100.0**
Suspected attempted suicide	21,316	12.6	68.8
All other and unknown	9,663	5.7	31.2
Adverse reaction	**3,248**	**1.9**	**100.0**
Drug	2,474	1.5	76.2
Food	283	0.2	8.7
Other	491	0.3	15.1
Other	**873**	**0.5**	**100.0**
Contamination/tampering	412	0.2	47.2
Malicious	418	0.2	47.9
Withdrawal	43	0.0	4.9
Unknown	**1,741**	**1.0**	**100.0**
Total	169,727		

*Human exposures only

EXPOSURES BY ROUTE

Table 5. Patient exposures by route*, Texas Poison Control Network, 2015

Exposure route	Number	% of total
Ingestion	145,678	85.8
Dermal	10,079	5.9
All other and unknown	21,273	12.5
Total	169,727	

An exposure may occur by more than one route
*Human exposures only

EXPOSURES BY NUMBER OF SUBSTANCES

Table 6. Patient exposures by number of substances*, Texas Poison Control Network, 2015

Number of substances	Number	% of total
1	151,386	89.2
2	11615	6.8
3 or more	6,726	4.0
Total	169,727	

*Human exposures only

EXPOSURES BY MANAGEMENT SITE

Table 7. Patient exposures by management site*, Texas Poison Control Network, 2015

Management site	Number	% of total
Managed on site (non health care facility)	115,152	67.8
Patient already at or en route to healthcare facility	42,144	24.8
Patient referred to healthcare facility	10,680	6.3
All other and unknown	1,751	1.0
Total	169,727	

*Human exposures only

EXPOSURES BY MEDICAL OUTCOME

Table 8. Patient exposures by medical outcome*, Texas Poison Control Network, 2015

Medical outcome	Number	% of total
No effect	32,470	19.1
Minor effect	21,702	12.8
Moderate effect	13,659	8.0
Major effect	2,240	1.3
Death	78	0.0
Not followed, judged as nontoxic exposure (clinical effects not expected)	17,824	10.5
Not followed, minimal clinical effects possible (no more than minor effect possible)	70,589	41.6
Other	11,165	6.6
Total	**169,727**	

*Human exposures only

EXPOSURES BY CATEGORY

Table 9. Patient exposures by 10 most common non-pharmaceutical and pharmaceutical categories*, Texas Poison Control Network, 2015

Non-pharmaceuticals			Pharmaceuticals		
Category	**#**	**% of total**	**Category**	**#**	**% of total**
Cleaning substances (household)	15,068	8.9	Analgesics	21,095	12.4
Cosmetics, personal care products	14,187	8.4	Sedatives, hypnotics, antipsychotics	10,664	6.3
Pesticides	6,922	4.1	Antihistamines	9,847	5.8
Foreign bodies, toys, miscellaneous	6,655	3.9	Antidepressants	7,987	4.7
Alcohols	5,101	3.0	Cardiovascular drugs	6,746	4.0
Bites and envenomations	4,887	2.9	Topical preparations	5,772	3.4
Chemicals	3,171	1.9	Cold and cough preparations	5,350	3.2
Plants	2,810	1.7	Vitamins	5,319	3.1
Hydrocarbons	2,406	1.4	Stimulants and street drugs	5,276	3.1
Arts, crafts, office supplies	1,863	1.1	Antimicrobials	4,656	2.7
Total	**169,727**		**Total**	**169,727**	

An exposure may involve more than one substance. Total is for total exposures, both non-pharmaceuticals and pharmaceuticals.
*Human exposures only

TABLE 10. EXPOSURES BY CALLER COUNTY, TEXAS POISON CENTER NETWORK, 2015

Caller county	Number
Anderson	381
Andrews	195
Angelina	605
Aransas	111
Archer	21
Armstrong	20
Atascosa	264
Austin	163
Bailey	42
Bandera	104
Bastrop	458
Baylor	45
Bee	345
Bell	2,987
Bexar	11,871
Blanco	101
Borden	…
Bosque	95
Bowie	598
Brazoria	1,808
Brazos	1,200
Brewster	63
Briscoe	…
Brooks	29
Brown	374
Burleson	92
Burnet	286
Caldwell	201
Calhoun	132
Callahan	108
Cameron	1,985
Camp	92
Carson	28
Cass	186
Castro	42
Chambers	93
Cherokee	363
Childress	59
Clay	28
Cochran	12
Coke	20
Coleman	52
Collin	4,319
Collingsworth	16
Colorado	113
Comal	1,050
Comanche	109
Concho	17
Cooke	268
Coryell	593
Cottle	5
Crane	38
Crockett	41
Crosby	41
Culberson	7
Dallam	50
Dallas	12,765
Dawson	74
De Witt	117
Deaf Smith	101
Delta	27
Denton	3,831
Dickens	28
Dimmit	97
Donley	19
Duval	55
Eastland	149
Ector	1,021
Edwards	8
El Paso	5,274
Ellis	960
Erath	255
Falls	91
Fannin	175
Fayette	181
Fisher	27
Floyd	44
Foard	…
Fort Bend	2,082
Franklin	41
Freestone	136
Frio	117
Gaines	87
Galveston	1,856
Garza	38
Gillespie	174
Glasscock	10
Goliad	51
Gonzales	175
Gray	187
Grayson	897
Gregg	1,058
Grimes	134
Guadalupe	798
Hale	222
Hall	17
Hamilton	40
Hansford	29
Hardeman	25
Hardin	181
Harris	21,996
Harrison	269
Hartley	40
Haskell	76
Hays	1,176
Hemphill	31
Henderson	633
Hidalgo	3,768
Hill	226
Hockley	123
Hood	443
Hopkins	250
Houston	128
Howard	269
Hudspeth	…
Hunt	506
Hutchinson	203
Irion	5
Jack	47

Jackson	99
Jasper	157
Jeff Davis	5
Jefferson	1,398
Jim Hogg	34
Jim Wells	313
Johnson	1,219
Jones	105
Karnes	108
Kaufman	668
Kendall	235
Kenedy	…
Kent	…
Kerr	410
Kimble	36
King	…
Kinney	11
Kleberg	232
Knox	25
La Salle	30
Lamar	390
Lamb	108
Lampasas	114
Lavaca	150
Lee	83
Leon	89
Liberty	568
Limestone	152
Lipscomb	17
Live Oak	60
Llano	142
Loving	…
Lubbock	1,934
Lynn	30
Madison	93
Marion	37
Martin	53
Mason	20
Matagorda	255
Maverick	197
McCulloch	67
McLennan	1,640
McMullen	…
Medina	255
Menard	10
Midland	1,384
Milam	138
Mills	19
Mitchell	44
Montague	151
Montgomery	2,828
Moore	118
Morris	56
Motley	9
Nacogdoches	444
Navarro	377
Newton	25
Nolan	133
Nueces	2,786
Ochiltree	80
Oldham	33
Orange	378
Palo Pinto	249
Panola	127
Parker	748
Parmer	45
Pecos	123
Polk	342
Potter	1,181
Presidio	22
Rains	75
Randall	956
Reagan	20
Real	13
Red River	55
Reeves	65
Refugio	40
Roberts	5
Robertson	65
Rockwall	633
Runnels	75
Rusk	317
Sabine	78
San Augustine	46
San Jacinto	72
San Patricio	527
San Saba	25
Schleicher	15
Scurry	141
Shackelford	26
Shelby	144
Sherman	13
Smith	1,573
Somervell	66
Starr	256
Stephens	94
Sterling	9
Stonewall	10
Sutton	28
Swisher	39
Tarrant	10,542
Taylor	1,099
Terrell	…
Terry	60
Throckmorton	9
Titus	178
Tom Green	767
Travis	6,419
Trinity	101
Tyler	168
Upshur	204
Upton	40
Uvalde	203
Val Verde	227
Van Zandt	285
Victoria	741
Walker	382
Waller	122
Ward	116
Washington	215
Webb	1,067
Wharton	291
Wheeler	49
Wichita	1,076
Wilbarger	110

Willacy	92
Williamson	2,839
Wilson	294
Winkler	48
Wise	410
Wood	266
Yoakum	45
Young	139
Zapata	49
Zavala	67
Total	169,727

*Human exposures only, “…” suppressed due to low numbers.

TECHNICAL NOTES

When a person calls a poison center in the Texas Poison Control Network, the poison specialist collects a variety of information as an electronic record in a single, centralized database used by all of the poison centers. The variables and codes for each variable were standardized by the American Association of Poison Control Centers (AAPCC, www.aapcc.org). Quality control measures are utilized to ensure the accuracy and completeness of the data collected. A copy of the Texas Poison Control Network database is provided to the Texas Department of State Health Services, where further quality control measures are performed. Once the data have completed quality control measures, analyses for the annual report are performed using Microsoft Access version 10.

Variables:

Caller county: County where the caller was located at the time of the initial call. Analysis was based on the county name.

Caller site: The site of the caller at the time of the initial call.

Exposure reason: The underlying reason, purpose, or intent by which the exposure occurred.

Exposure route: The route of the exposure. An exposure may involve more than one route.

Exposure site: The location of the patient at the time the exposure occurred.

Management site: Where the patient was managed. This includes on site (outside of a healthcare facility), already at or en route to a healthcare facility, or referred to a healthcare facility by the poison center.

Medical outcome: Medical outcome or severity of the exposure based upon all available information.

Number of substances: The number of different substances involved in the exposure. There is no limit to the number of substances.

Patient age: The patient's actual age whenever it can be obtained. If the patient's actual age cannot be obtained, an age category is assigned.

Patient gender: The gender of the patient.

Substance categories: The substance or product involved in an exposure. These substances are grouped into major categories by the American Association of Poison Control Centers (AAPCC, www.aapcc.org). All of the substance categories can be found in any of the AAPCC annual reports available on their website.

Variable subgroups: The subgroups for each variable were standardized by the American Association of Poison Control Centers (AAPCC, www.aapcc.org).

Numbers: Numbers are the number of human exposures (patients).

Limitations: Reporting of exposures to the Texas Poison Control Network is not mandatory. Thus, reported exposures are not representative of all such exposures that occur in Texas. The information is primarily provided by the caller and not independently verified by clinical or toxicologic laboratory tests.